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EXAMINER				
STRODER, CARRIE A				
ART UNIT		PAPER NUMBER		
3689				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary****Application No.**

10/668,133

**Applicant(s)**

MOHARRAM, Omayma EL-SAYED

**Examiner**

CARRIE A. STRODER

**Art Unit**

3689

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This is a Final Office Action in response to communications received 29 March 2011, wherein:

Claims 1-19 and 21-26 are pending; and

Claims 20 and 27-39 are cancelled.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-10 and 31-36 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Ngi et al. (US 2003/015765) in view of Bowman-Amuah (US 6,611,867), and further in view of EURESCOM Project P901-PF Extended investment analysis of telecommunication operator strategies (hereinafter EURESCOM):

Deliverable 1: Investment analysis framework definition and requirements specification (hereinafter D1);

Deliverable 2: Investment Analysis Modeling (hereinafter D2).

**Regarding claims 1 and 31:**

Ngi discloses

(a) receiving data and options for plurality of network architectures ([0015], *obtaining a network configuration based on customer parameters*; [0031]-[0032], *accurately model existing customer networks, and also to compare such existing networks to competitors' networks and to proposed networks*; [0055] *determine a network configuration based on customer parameters*, it is implicit that data and options are received to be able to accomplish such; *models may include traditional SONET (Synchronous Optical NETWORK), NG-SONET (Next Generation SONET) and MSPP (Multi-Service Provisioning Platform) solutions*;

(b) engineering the plurality of network architectures based on the data and options of (a) ([0055], *determine a network configuration based on customer parameters. This network configuration is preferably optimal with respect to one or more customer parameters or requirements... models may include*

*traditional SONET (Synchronous Optical NETWORK), NG-SONET (Next Generation SONET) and MSPP (Multi-Service Provisioning Platform) solutions);*

*(c) determining suppliers' equipment costs for said plurality of network architectures ([0015], c) generating an equipment list based on said link budget calculations; d) calculating, based on said equipment list, at least one business parameter associated with implementation of said network configuration; [0019], the business parameter is advantageously a cost. Some examples of such cost include: capital cost, operational cost, cost to own, cost to grow, cost to build, net present value, total cost of operation, and time value of money; [0020], bill of materials; [0096]);*

*(g) determining, based on the costs of the plurality of network architectures, business parameters for the business solutions ([0015], calculating, based on said equipment list, at least one business parameter associated with implementation of said network configuration; [0033], an Executive Summary may be presented for Network Architecture Costs, Cost to Build, Risk Analysis, Cost/Benefit Analysis and many other areas; [0097], the network results are modeled and the business parameters*

*related thereto are then compared to any competitive or existing solution; [0100]-[0107], Business Parameter Calculation and Report Generation); and*

*(h) storing and displaying the business parameters for the business solutions for the telecommunications network ([0015]).*

*Ngi discloses (f) calibrating the data and options and the costs for the plurality of network architectures ([0018], iteratively arrive at an enhanced network configuration: producing a revised customer topology based on the network topology and the link budget calculations; and repeating steps a) and b) wherein the customer parameters comprise customer demand and the revised customer topology; [0075], the bandwidth modeling means 440 converts this customer demand defined with respect to node ports into standardized customer demand. In this example, standardized customer demand comprises two separate customer demand parameters: aggregate customer demand by node, and line side port count by node; Figure 4B, element 495, Modify network configuration to satisfy network criteria; [0098], simulate costs and scrutinize potential network changes to investigate whether any excess pressure points may develop under certain circumstances; [0102], a 'what-if' analysis performed on one or*

*more particular business parameters, or network metrics.*

*Because these business parameters are calculated quickly, a number of varied scenarios may be introduced, and the effect on revenues and operation and capital costs may be observed in real time; [0019], the business parameter is advantageously a cost. Some examples of such cost include: capital cost, operational cost, cost to own, cost to grow, cost to build, net present value, total cost of operation, and time value of money; Ngi discloses producing an enhanced network configuration through iterative revision. Ngi discloses bandwidth modeling with standardizing demand data to determine capacity and service. Ngi discloses costs are simulated and network changes are made accordingly. Ngi discloses 'what-if' analysis on business parameters and network metrics. What-if analysis implies that if results are unsatisfactory, adjustments are made. Ngi clearly discloses adjusting or standardizing or determining the graduation of, that is, "calibrating" data and options and the costs).*

Although Ngi does not explicitly teach applying the calibrating to the network management processes, and service and customer management processes, these processes are taught by Bowman-Amuah (column 67, lines 31-60, *a number of operations management*

*processes are shown to be provided covering Customer Care 2200, Service Management 2202 and Network Management 2204.)*

A person having ordinary skill in the art at the time of invention would have found it obvious to calibrate the data, options, and costs as taught by Ngi for the network management processes, and service and customer management processes taught by Bowman-Amuah, in order to provide enhanced network processes.

Ngi does not disclose (a) receiving data and options for a plurality of network management processes, and service and customer management processes.

However, Bowman-Amuah teaches (a) receiving data and options for a plurality of network management processes, and service and customer management processes (column 67, lines 31-60, *a number of operations management processes are shown to be provided covering Customer Care 2200, Service Management 2202 and Network Management 2204. ...The modeling of the Network Management processes 2204 and functions is based on the following considerations: top-down decomposition of Service Management needs to guide the structuring of processes and to identify the supporting functions within Function Set Groups. ...Network*



*Management processes 2204, and the process flows that link these, have been derived from discussions and interviews with business planning and operational staff in a number of Service Providers and represent a business-oriented (top-down) view of the structure of the Network Management Layer; column 68, lines 33-67, an analysis of the information flows is needed to guide the structuring of the overall operational environment into major processes, and to identify the contents and linkages between them; since needs are considered, supporting functions are identified, and an information flow is analyzed, it is implicit that this data is received in order to model the processes; column 79, lines 58-67, the high level processes set forth hereinabove may be decomposed into optional sub-processes, which may be linked together in 'work strings' (for instance by using workflow engines). These sub-processes support the high level processes and represent the way providers describe daily tasks they perform, in managing integrated networks to support automated management of services, delivered to their customers).*

Ngi discloses receiving data and options for a plurality of network architectures. Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to

modify the invention of Ngi with the teachings of Bowman-Amuah to receive data and options for management processes as well in order to provide comprehensive business solutions.

Ngi does not disclose (d) engineering the network management processes, and the service and customer management processes, based on the data and options of (a), for managing said plurality of networks.

However, Bowman-Amuah teaches (d) engineering the network management processes, and the service and customer management processes, based on the data and options of (a), for managing said plurality of networks (column 67, lines 31-60, *a number of operations management processes are shown to be provided covering Customer Care 2200, Service Management 2202 and Network Management 2204. ...The modeling of the Network Management processes 2204 and functions is based on the following considerations: top-down decomposition of Service Management needs to guide the structuring of processes and to identify the supporting functions within Function Set Groups. ...Network Management processes 2204, and the process flows that link these, have been derived from discussions and interviews with business planning and operational staff in a number of Service*

*Providers and represent a business-oriented (top-down) view of the structure of the Network Management Layer; column 68, lines 33-67, an analysis of the information flows is needed to guide the structuring of the overall operational environment into major processes, and to identify the contents and linkages between them; column 79, lines 58-67, the high level processes set forth hereinabove may be decomposed into optional sub-processes, which may be linked together in 'work strings' (for instance by using workflow engines). These sub-processes support the high level processes and represent the way providers describe daily tasks they perform, in managing integrated networks to support automated management of services, delivered to their customers).*

Ngi discloses engineering the plurality of network architectures ([0015] *...performing integrated optical network planning and business modeling...* where "planning" is interpreted as engineering). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

EURESCOM teaches

(f) validating the data and options and the costs for the plurality of network architectures, the network management processes, and the service and customer management processes (D1, Volume 2: page 10, *...debug, revise, and refine the methodologies... where debugging the methodologies is interpreted as validating the data and options and costs*).

With regard to (e) determining suppliers' management processes costs for the network management processes, and the service and customer management processes, Ngi discloses determining operational costs ([0097], *business parameters such as the operational and capital costs associated with network modeling exercises; [0122], there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used. A business parameter known as third party costs is used to represent these many degrees of operational costing. Third party costs may be a critical factor to a customer in determining the expenses that will be involved in running a network. Some of the costs in this category may include: co-location costs (detailed power and*

*space costing); provisioning costs (for greenfield and growth situations); and training costs (network engineering, operational, support); Operational costs of a business are the costs involved in operating the business. It is implicit that this would include the costs of "management processes").*  
(Underline added.)

However, Ngi does not disclose the specific management processes costs for the network management processes, and the service and customer management processes.

EURESCOM teaches the specific management processes costs for the network management processes, and the service and customer management processes (D2, Volume 1: page 8, number 4, *The operation, administration and maintenance costing is based on the identification and the classification of the operation, administration and maintenance processes and their respective drivers. A cost model is described for each or a group of processes depending on the level of accuracy required by the analysis of the project. Sometimes operation, administration and maintenance processes are simply referred to as operational processes with the related operational expenditure in the loss and profit account. At the modeling stage, the modeling might*

also be based on the nature of cost, i.e. human resources, utilities, material, etc.; D2, Volume 1: page 11, Table 1, Identification of sources of running costs: Customer care management, Service & Service Management, Network and System Management). (Underline added.)

Since Ngi discloses determining operational costs, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include specific management processes costs as well in order to provide comprehensive business solutions.

With regard to (g) determining, based on the costs of the network management processes and the service and customer management processes, business parameters for the business solutions, Ngi discloses determining, based on costs of management processes, business parameters for business solutions ([0097], *business parameters such as the operational and capital costs associated with network modeling exercises*; [0119], Table 2, *Operational cost breakdown for build, own, grow; Total operational cost requirement*; [0122], *there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive*

information to best represent the network models that are used.

A business parameter known as third party costs is used to represent these many degrees of operational costing. Third party costs may be a critical factor to a customer in determining the expenses that will be involved in running a network. Some of the costs in this category may include: co-location costs (detailed power and space costing); provisioning costs (for greenfield and growth situations); and training costs (network engineering, operational, support)).

However, Ngi does not disclose the specific management processes.

EURESCOM teaches specific management processes, i.e., the network management processes and the service and customer management processes (D2, Volume 1: page 8, number 4, The operation, administration and maintenance costing is based on the identification and the classification of the operation, administration and maintenance processes and their respective drivers. A cost model is described for each or a group of processes depending on the level of accuracy required by the analysis of the project. Sometimes operation, administration and maintenance processes are simply referred to as operational

processes with the related operational expenditure in the loss and profit account. At the modeling stage, the modeling might also be based on the nature of cost, i.e. human resources, utilities, material, etc.; D2, Volume 1: page 11, Table 1, Identification of sources of running costs: Customer care management, Service & Service Management, Network and System Management). (Underline added.)

Therefore, since Ngi discloses determining, based on the costs of general management processes, business parameters for the business solutions, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include specific management processes in order to provide comprehensive business solutions.

**Regarding claim 2:**

Ngi discloses

instructions for causing the computer to receive traffic data ([0061]-[0073], *Traffic pattern, Traffic growth*; Figures 3A and 3B, *Node Traffic Characteristics, Packet Traffic v. SONET Traffic*);



customer data ([0060], *customer parameters comprise customer demand and customer topology. Customer demand is a measure of the anticipated demand by end-users with respect to services that are provided by a customer. Such a customer demand parameter may be based on current measured end-user demand statistics, or may be based on forecasted end-user demand. This demand is preferably measured in terms of bandwidth, but may alternatively be measured with respect to classed of service, types of service, or any other measurement*); and

financial and labor data ([0119], *Operational Expenditure; Total Cost of Operation*; costs to operate or run a network would include labor costs).

**Regarding claims 3, 33, and 36:**

Ngi discloses

receive technology options which comprise at least one of: time division multiplexing (TDM), asynchronous transfer mode (ATM), frame relay (FR), Internet protocol (IP), virtual private network (VPN), multi protocol label switching (MPLS), and optical Ethernet including fiber, synchronous optical network (SONET), resilience packet ring (RPR), and dense wavelength division multiplexing (DWDM) for a network architecture for a

business solution ([0055], *models may include traditional SONET (Synchronous Optical NETWORK), NG-SONET (Next Generation SONET) and MSPP (Multi-Service Provisioning Platform) solutions*).

Ngi does not disclose to receive options for the management processes.

However, Bowman-Amuah teaches to receive options for the network management processes which comprise at least one of: inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for managing the network architecture for the business solution (column 69, lines 17-67; Figure 24, *Network Provisioning*); and

receive options for the service and customer management processes which comprise at least one of: customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for managing the network architecture for the business solution (column 67, lines 31-52; Figure 22, *Customer Care Processes, Invoicing/Collection*).

Ngi discloses receiving technology options ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to receive options for management processes as well in order to provide comprehensive business solutions.

**Regarding claims 4 and 32:**

Ngi discloses determine the business parameters which comprise at least one of: capital expenditure (CAPEX), wherein the CAPEX comprises a network architecture cost, taxes, interests, and depreciation and amortization (D/A) expenses; operational expenditure (OPEX), wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A); revenue; capacity; return on investment (ROI); earnings before interest, taxes, and depreciation and amortization (EBITDA); earnings before interest and taxes (EBIT); the OPEX as percentage of the revenue; and total expenditure as percentage of the revenue, wherein the total expenditure comprises the

CAPEX and the OPEX ([0119], Table 2, *Capital Expenditure, Total capital cost requirement*).

Ngi does not disclose to compute the business parameters for the business solutions over a pre-determined study period.

However, EURESCOM teaches to compute the business parameters for the business solutions over a pre-determined study period (D1, Volume 2: page 6, paragraph 5, *Each evolutionary path is defined by a number of technology upgrades within a given period called the study period or project lifetime. For R&D related projects which are long term, the project lifetime is mostly 5-10 years*; page 7, paragraph 3, *The cost module gives a range of outputs necessary for the calculation of product indices such as IFC (installed first costs), LCC (life-cycle costs), NPV and IRR. IFC is calculated as the sum of total discounted investment with in the study period, whereas LCC is defined as sum of discounted investments and running costs*; page 75, paragraph 7, *Life Cycle Cost is defined as the sum of global discounted investments and global discounted running (or OA&M) costs. This value represents the total cost for constructing and running the network over the study period*; page 76, paragraph 2, *In an investment scenario where most of the*

*expenditure happens at the beginning of the study period, the Payback Period gives a good indication of the efficiency of the investment).*

Since Ngi discloses determining business parameters, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to compute business parameters over a pre-determined study period in order to provide comprehensive business solutions.

**Regarding claims 5 and 35:**

Ngi discloses engineer the network architecture for the business solution ([0055], *determine a network configuration based on customer parameters. This network configuration is preferably optimal with respect to one or more customer parameters or requirements... models may include traditional SONET (Synchronous Optical Network), NG-SONET (Next Generation SONET) and MSPP (Multi-Service Provisioning Platform) solutions).*

**Regarding claim 6,** Ngi does not disclose engineer the network management processes and the service and customer management

processes for managing the network architecture for the business solution.

However, Bowman-Amuah teaches engineer the network management processes and the service and customer management processes for managing the network architecture for the business solution (column 67, lines 31-60, *a number of operations management processes are shown to be provided covering Customer Care 2200, Service Management 2202 and Network Management 2204. ...The modeling of the Network Management processes 2204 and functions is based on the following considerations: top-down decomposition of Service Management needs to guide the structuring of processes and to identify the supporting functions within Function Set Groups. ...Network Management processes 2204, and the process flows that link these, have been derived from discussions and interviews with business planning and operational staff in a number of Service Providers and represent a business-oriented (top-down) view of the structure of the Network Management Layer; column 68, lines 33-67, an analysis of the information flows is needed to guide the structuring of the overall operational environment into major processes, and to identify the contents and linkages between them; column 79, lines 58-67, the high level processes set forth*

*hereinabove may be decomposed into optional sub-processes, which may be linked together in 'work strings' (for instance by using workflow engines). These sub-processes support the high level processes and represent the way providers describe daily tasks they perform, in managing integrated networks to support automated management of services, delivered to their customers).*

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

**Regarding claims 7 and 38:**

Ngi discloses display the business parameters in tables and graphical charts for the business solutions over the pre-determined study period ([0110], Figure 14; [0114], Figure 16; [0123]-[0124], Figures 17A, 17B, and 18).

**Regarding claims 8 and 34:**

Ngi discloses determine a network architecture cost and a leasing cost for the network architecture for the business solution ([0113], *an advanced network business report showing the equipment needed at one site in a network and comparing the capital expenditures and operational expenditures of two possible solutions*; [0083], *low cost leased fiber capacity available from other carriers*; it is implicit that the leasing costs would be included).

Nonetheless, EURESCOM teaches to determine a network architecture cost and a leasing cost for the network architecture for the business solution (D1, Volume 2: page 5, paragraph 1, *Network architecture. Cost evolution and volume of each network element (time series)*; D2, Volume 2: pages 30-31, Section 3.2.2, *Leased facilities costs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include all costs (leasing costs as well) in order to provide comprehensive business solutions.



**Regarding claim 9:**

EURESCOM teaches

(f) validating the data and options; the network architecture costs; and the leasing cost for said network architecture for the business solution (D1, Volume 2: page 10, *...debug, revise, and refine the methodologies...* where debugging the methodologies is interpreted as validating the data and options and costs; D2, Volume 2: pages 30-31, Section 3.2.2, *Leased facilities costs*).

The word calibrating is taken as the common meaning, i.e., to adjust or standardize, to determine, check or rectify the graduation of. Examiner notes that the instant specification as originally filed does not disclose "calibrating" to be other than in the general sense. Therefore, the data and options and the costs are calibrated in the sense of adjusting or standardizing or determining the graduation of.

Ngi discloses (f) calibrating the data and options; the network architecture costs; and the leasing cost for said network architecture for the business solution ([0018], iteratively arrive at an enhanced network configuration: producing a revised customer topology based on the network topology and the link budget calculations; and repeating steps a) and b) wherein the

customer parameters comprise customer demand and the revised customer topology; [0075], the bandwidth modeling means 440 converts this customer demand defined with respect to node ports into standardized customer demand. In this example, standardized customer demand comprises two separate customer demand parameters: aggregate customer demand by node, and line side port count by node; Figure 4B, element 495, Modify network configuration to satisfy network criteria; [0083], low cost leased fiber capacity available from other carriers; [0098], simulate costs and scrutinize potential network changes to investigate whether any excess pressure points may develop under certain circumstances; [0102], a 'what-if' analysis performed on one or more particular business parameters, or network metrics. Because these business parameters are calculated quickly, a number of varied scenarios may be introduced, and the effect on revenues and operation and capital costs may be observed in real time; [0019], the business parameter is advantageously a cost. Some examples of such cost include: capital cost, operational cost, cost to own, cost to grow, cost to build, net present value, total cost of operation, and time value of money; Ngi discloses producing an enhanced network configuration through iterative revision. Ngi discloses bandwidth modeling with standardizing demand data to determine capacity and service.

Ngi discloses costs are simulated and network changes are made accordingly. Ngi discloses 'what-if' analysis on business parameters and network metrics. What-if analysis implies that if results are unsatisfactory, adjustments are made. Ngi clearly discloses adjusting or standardizing or determining the graduation of, that is, "calibrating" data and options and the costs).

Although Ngi does not explicitly teach applying the calibrating to the network management processes, and service and customer management processes, these processes are taught by Bowman-Amuah (column 67, lines 31-60, *a number of operations management processes are shown to be provided covering Customer Care 2200, Service Management 2202 and Network Management 2204.*)

A person having ordinary skill in the art at the time of invention would have found it obvious to calibrate the data, options, and costs and the network architecture cost as taught by Ngi as well as the leasing cost as taught by Bowman-Amuah, in order to provide enhanced network processes.

**Regarding claim 10:**

Ngi does not disclose determine an owned network elements (NEs) count; a leased NEs count; an owned customer premise equipment (CPE) count; a leased CPE count; an owned links count; a leased links count; and a leased ports count for said network architecture; and wherein said network architecture having NEs, CPE, and links from the same or different equipment suppliers.

However, EURESCOM teaches to determine an owned network elements (NEs) count (D1, Volume 2: page 14, paragraph 3); a leased NEs count (D1, Volume 2: page 86, paragraph 7); an owned customer premise equipment (CPE) count (D1, Volume 2: page 14, paragraph 3); a leased CPE count (D1, Volume 2: page 86, paragraph 7); an owned links count (D1, Volume 2: page 57, paragraphs 8-9; page 60, paragraph 3); a leased links count (D2, Volume 2: page 67, Sections 6.3.1.1 and 6.3.1.2); and a leased ports count for said network architecture (D2, Volume 2: page 64, paragraph 6); and wherein said network architecture having NEs, CPE, and links from the same or different equipment suppliers (D1, Volume 2: page 49, paragraph 5; page 50, paragraph 5; page 86, paragraph 7).

Since Ngi discloses both network modeling and business modeling, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to have the counts of items (both owned and leased) to allow for calculation of costs in order to provide comprehensive business solutions.

**6. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ngi in view of Bowman-Amuah in view of EURESCOM and further in view of Arbel et al. (US 2004/0008673).**

**Regarding claim 11:**

Ngi does not disclose determine a price per network element (NE), a footprint per NE cost, a power consumption per NE cost; a price per CPE, a footprint per CPE cost, and a power consumption per CPE cost; and a price per link and a link transmission rate.

EURESCOM teaches to determine a price per network element (NE) (D1, Volume 2: page 64, paragraphs 2-4), a power consumption per NE cost (D2, Volume 2: page 34, Table 7; page 35, Table 9); a price per CPE (D1, Volume 2: page 64, paragraphs 2-4), a power consumption per CPE cost (D2, Volume 2: page 34, Table 7;

page 35, Table 9); a price per link and a link transmission rate (D1, Volume 2: page 57, paragraphs 8-9; page 60, paragraph 3 and D2, Volume 2: Page 68, Section 6.3.1.2).

Arbel teaches costs in relation to footprints ([0025], *reducing the cost, footprint, and power consumption of every node in a network*; [0074], *requiring more processing logic at the node, which increases the footprint, cost, and power consumption*).

Ngi discloses *advanced network business reports* showing a comparison of *capital expenditures and operational expenditures of two possible solutions, a comparison of the floor space requirements of the two proposals*, and a comparison of two types of equipment at a node level ([0113]-[0114], Figures 15 and 16).

Ngi further discloses *Third Party Costing...* to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used. ...Some of the costs in this category may include: *co-location costs (detailed power and space costing)* ([0121]-[0122]). (All underlines added.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi to include all costs in order to provide comprehensive business solutions.

**Regarding claim 12:**

Ngi does not disclose wherein the instructions for determining the network architecture cost comprise instructions for causing the computer to compute a total owned NEs cost; a total owned CPE cost; and a total owned links cost for said network architecture for the business solution; and wherein the instructions for determining the leasing cost comprise instructions for causing the computer to compute a total footprints cost and a total power consumptions cost for said owned NEs and CPE.

EURESCOM further teaches wherein the means for determining the network architecture cost comprises a means for computing a total owned NEs cost; a total owned CPE cost; and a total owned links cost for said network architecture for the business solution (D1, Volume 2: page 47, paragraph 5; page 65,

paragraph 1) and a total power consumptions cost for said owned NEs and CPE (D2, Volume 2: page 34, Table 7; page 35, Table 9).

Arbel teaches costs in relation to footprints ([0025], *reducing the cost, footprint, and power consumption of every node in a network*; [0074], *requiring more processing logic at the node, which increases the footprint, cost, and power consumption*).

Ngi discloses *advanced network business reports* showing a comparison of *capital expenditures and operational expenditures of two possible solutions, a comparison of the floor space requirements of the two proposals, and a comparison of two types of equipment at a node level* ([0113]-[0114], Figures 15 and 16).

Ngi further discloses *Third Party Costing.. to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used. ...Some of the costs in this category may include: co-location costs (detailed power and space costing)* ([0121]-[0122]). (All underlines added.)



Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi to include all costs and the totals as well in order to provide comprehensive business solutions.

**Regarding claim 13:**

Ngi does not disclose determine a leased per NE cost, a footprint per NE cost, and a power consumption per NE cost; a leased per CPE cost, a footprint per CPE cost, and a power consumption per CPE cost; a leased per link cost; a leased link per unit length cost, a unit length per link count, and a link transmission rate; and a leased per port cost.

EURESCOM further teaches to determine a leased per NE cost (D1, Volume 2: page 86, paragraph 7), a power consumption per NE cost (D2, Volume 2: page 34, Table 7; page 35, Table 9); a leased per CPE cost (D1, Volume 2: page 86, paragraph 7), a power consumption per CPE cost (D2, Volume 2: page 34, Table 7; page 35, Table 9); a leased per link cost; a leased link per unit length cost, a unit length per link count (D2, Volume 2: page 67, Sections 6.3.1.1 and 6.3.1.2), and a link transmission rate (D1, Volume 2: page 57, paragraphs 8-9; page 60, paragraph

3 and D2, Volume 2: Page 68, Section 6.3.1.2); and a leased per port cost (D2, Volume 2: page 64, paragraph 6).

Arbel teaches costs in relation to footprints ([0025], *reducing the cost, footprint, and power consumption of every node in a network*; [0074], *requiring more processing logic at the node, which increases the footprint, cost, and power consumption*).

Ngi discloses *advanced network business reports showing a comparison of capital expenditures and operational expenditures of two possible solutions, a comparison of the floor space requirements of the two proposals, and a comparison of two types of equipment at a node level* ([0113]-[0114], Figures 15 and 16).

Ngi further discloses *Third Party Costing... to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used. ...Some of the costs in this category may include: co-location costs (detailed power and space costing)* ([0121]-[0122]). (All underlines added.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi to include all costs in order to provide comprehensive business solutions.

**Regarding claim 14:**

Ngi does not disclose compute a total leased NEs cost; a total leased CPE cost; a total footprints cost and a total power consumptions cost for said leased NEs and CPE; a total leased links cost; a total leased links for unit length cost; and a total leased ports cost for said network architecture for the business.

EURESCOM further teaches to compute a total leased NEs cost (D1, Volume 2: page 86, paragraph 7); a total power consumptions cost for said leased NEs (D2, Volume 2: page 34, Table 7; page 35, Table 9); a total leased CPE cost (D1, Volume 2: page 86, paragraph 7);...and a total power consumptions cost for said leased CPE (D2, Volume 2: page 34, Table 7; page 35, Table 9); a total leased links cost and a total leased links for unit length cost (D2, Volume 2: page 67, Sections 6.3.1.1 and 6.3.1.2); and a total leased ports cost (D2, Volume 2: page 64, paragraph 6).

Arbel teaches costs in relation to footprints ([0025], *reducing the cost, footprint, and power consumption of every node in a network*; [0074], *requiring more processing logic at the node, which increases the footprint, cost, and power consumption*).

Ngi discloses *advanced network business reports* showing a comparison of *capital expenditures and operational expenditures of two possible solutions, a comparison of the floor space requirements of the two proposals, and a comparison of two types of equipment at a node level* ([0113]-[0114], Figures 15 and 16).

Ngi further discloses *Third Party Costing... to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used. ...Some of the costs in this category may include: co-location costs (detailed power and space costing)* ([0121]-[0122]). (All underlines added.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention

of Ngi to include all costs and the totals as well in order to provide comprehensive business solutions.

**7. Claims 15-19, 21-26, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ngi in view of Bowman-Amuah in view of EURESCOM and further in view of Mobile LRIC model specification (hereinafter Mobile).**

**Regarding claims 15 and 37:**

Ngi discloses determining operational costs ([0097], *business parameters such as the operational and capital costs associated with network modeling exercises; [0122], there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used. A business parameter known as third party costs is used to represent these many degrees of operational costing. Third party costs may be a critical factor to a customer in determining the expenses that will be involved in running a network. Some of the costs in this category may include: co-location costs (detailed power and space costing); provisioning costs (for greenfield and growth situations); and training costs (network engineering, operational, support); Operational costs*

of a business are the costs involved in operating the business. It is implicit that this would include the costs of "management processes"). (Underline added.)

However, Ngi does not disclose wherein the instructions (e) comprise instructions for causing the computer to: determine a network management processes cost, wherein the network management processes cost comprises costs for inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for each network element in the network architecture for the business solution; determine a service and customer management processes cost, wherein the service and customer management processes cost comprises costs for customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for each link in the network architecture for the business solution; and determine a management processes cost which comprises the network management processes cost and the service and customer management processes cost.

That is, Ngi does not disclose the specific management processes costs for the network management processes, and the service and customer management processes.

EURESCOM teaches Identification of sources of running costs, such as Customer care management, Service & Service management, Network and system management, Network elements & system elements, and Physical network and infrastructure consisting of cables, ducts, cabinets, and buildings. EURESCOM further characterizes these costs as they relate to Maintenance processes, Operational processes, and Administrative processes, for example, Customer billing, Service fault management, Service set-up & configuration, Network maintenance & restoration, Inventory & data management, Network provisioning, Network performance management, Security management, and Broken cables (D2, Volume 2: pages 32-35). EURESCOM further discloses "Costing the network elements" (D2, Volume 2: page 68).

Mobile teaches cost categories, which include Network management, Billing, Customer care, and Indirect engineering expenditure (slide 29). Mobile further teaches examples of Network elements, including links (slide 258), and examples of indirect and direct costs (slide 263). Mobile further teaches

*total direct investment cost per network element purchased, in each year; and total direct annual operating expenses per network element in operation, in each year (slide 264).*

The costs recited are well-known costs. For example, costs for maintenance or accounting and billing are well-known business costs. Other costs such as network provisioning or service activation and provisioning are well-known industry specific costs. That the costs are not categorized in the same manner does not effectively serve to patentably distinguish the claimed invention over the prior art. It would have been obvious to one of ordinary skill in the art at the time of the invention to include or not to include certain costs depending on how comprehensive or limiting one chooses to be, but it would not be invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ngi with the teachings of EURESCOM and Mobile to include specific management processes costs as well in order to provide comprehensive business solutions.

**Regarding claim 16:**

Ngi does not disclose engineer at least one of the following processes: inside plant maintenance; outside plant maintenance;



network engineering; network provisioning; installation; testing; and repairs.

However, Bowman-Amuah teaches wherein the instructions for engineering the network management processes comprise instructions for causing the computer to engineer at least one of the following processes: inside plant maintenance; outside plant maintenance; network engineering; network provisioning; installation; testing; and repairs (column 71, lines 13-55, *FIG. 28 illustrates the Network Provisioning process, including input and output triggers*).

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

**Regarding claim 17:**

Ngi does not disclose determine the network management processes cost for said network management processes for at least one of:

a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.

However, EURESCOM teaches causing the computer to determine the network management processes cost for said network management processes for at least one of: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode (D2, Volume 2: pages 32-35). Specifically, EURESCOM teaches *Manpower* as a *Cost factor* or *driver* for such network management processes as *Network maintenance*, *Provisioning*, and *Network operation* (page 35, Tables 8 and 9).

Ngi discloses *Total operational cost requirement* ([0119]). It is implicit that a total operational cost would include costs from both manual and automated processes. Therefore, since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include the costs for both manual and automated management processes in order to provide comprehensive business solutions.

**Regarding claim 18:**

Ngi does not disclose engineer at least one of the following processes: customer relationship management (CRM); work order management (WOM); network inventory management (NIM); service activation and provisioning (SAP); fault management (FM); performance management (PM); accounting and billing; and security management.

However, Bowman-Amuah teaches wherein the instructions for engineering the service and customer management processes comprise instructions for causing the computer to engineer at least one of the following processes: customer relationship management (CRM); work order management (WOM); network inventory management (NIM); service activation and provisioning (SAP); fault management (FM); performance management (PM); accounting and billing; and security management (column 18, lines 1-19, *Service Management controls the overall service to the users of the system. ...Billing and Accounting*; column 27, line 1 - column 30, line 23; column 78, lines 7-67).

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with

the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

**Regarding claim 19:**

Ngi discloses determining, based on costs of management processes, business parameters for business solutions ([0097], *business parameters such as the operational and capital costs associated with network modeling exercises*; [0119], Table 2, *Operational cost breakdown for build, own, grow*; *Total operational cost requirement*; [0122], there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used. A business parameter known as third party costs is used to represent these many degrees of operational costing. Third party costs may be a critical factor to a customer in determining the expenses that will be involved in running a network. Some of the costs in this category may include: co-location costs (detailed power and space costing); provisioning costs (for greenfield and growth situations); and training costs (network engineering, operational, support)).

However, Ngi does not disclose the specific management processes. That is, Ngi does not disclose instructions for causing the computer to determine costs of the customer relationship management (CRM); the work order management (WOM); the network inventory management (NIM); the service activation and provisioning (SAP); the fault management (FM); the performance management (PM); the accounting and billing; and the security management for at least one of: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.

However, EURESCOM teaches costing specific management processes, that is, instructions for causing the computer to determine costs of the customer relationship management (CRM); the work order management (WOM); the network inventory management (NIM); the service activation and provisioning (SAP); the fault management (FM); the performance management (PM); the accounting and billing; and the security management for at least one of: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode (D2, Volume 2: page 35, Table 10, *Operational process, Service billing, Cost factors/drivers, Manpower, Service management system*; EURESCOM

determines both the manual and automated aspects of *Service billing*).

Therefore, since Ngi discloses determining, based on the costs of general management processes, business parameters for the business solutions, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include specific management processes in order to provide comprehensive business solutions.

**Regarding claim 21**, Ngi does not disclose engineer and determine costs for at least one of: a work order entry and validation process; a service delivery and work order processing process; a customer care process; a trouble ticketing process; and a service assurance and performance reporting process.

However, Bowman-Amuah teaches *[t]he Customer Quality of Service Management Process 134 encompasses monitoring, managing and reporting of quality of service as defined in Service Descriptions, Service Level Agreements (SLA), and other service-related documents. It includes network performance, but also performance across all of service parameters, e.g., Orders*

*Completed On Time. Outputs of this process are standard (predefined) and exception reports, including: dashboards, performance of a service against an SLA, reports of any developing capacity problems, reports of customer usage patterns (column 27, lines 10-67).*

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

EURESCOM teaches determining costs for *Customer care management* (D2, Volume 2: pages 30-36, Table 7). Note that considering more and more costs becomes a matter of choice as to how comprehensive or how limiting the number of costs should be. Therefore, such differences as determining more and more process costs does not effectively serve to patentably distinguish the claimed invention over the prior art.

Furthermore, Ngi discloses that *there is an attempt to encapsulate as many degrees of operational costing as possible.* *The reason for this is to obtain the most comprehensive information to best represent the network models that are used ([0122]).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include management processes costs as well in order to provide comprehensive business solutions.

**Regarding claim 22:**

Ngi does not disclose engineer and determine costs for at least one of: a work order processing process; a client management process; a report management process; and an administration management process.

However, Bowman-Amuah teaches that *[b]ased on the required network capacity, orders are issued to suppliers or other network operators (ONO's) and site preparation and installation orders are issued to the Network Inventory Management or a third party Network Constructor (work orders) (column 70, lines 15-67).* Bowman-Amuah further teaches *[i]ssues work orders when physical actions are required for network configuration. ...Work*



*order information to the Workforce Management process (column 82, line 44 - column 83, line 42).*

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

EURESCOM teaches determining costs for *Network maintenance & restoration* (D2, Volume 2: pages 30-36, Table 7). Note that considering more and more costs becomes a matter of choice as to how comprehensive or how limiting the number of costs should be. Therefore, such differences as determining more and more process costs does not effectively serve to patentably distinguish the claimed invention over the prior art.

Furthermore, Ngi discloses that *there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used*

[[0122]]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include management processes costs as well in order to provide comprehensive business solutions.

**Regarding claim 23:**

Ngi does not disclose engineer and determine costs for at least one of: a customer, services, and resources association management process; an equipment management process; and a network management process.

However, Bowman-Amuah teaches *the Network Inventory Management process, including input and output triggers. This process is responsible for anything to do with physical equipment and the administration of this equipment* (column 71, line 56 - column 72, line 27).

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management

processes as well in order to provide comprehensive business solutions.

EURESCOM teaches determining costs for *Network & systems databases (Inventory & data management)* (D2, Volume 2: pages 30-36, Table 7). Note that considering more and more costs becomes a matter of choice as to how comprehensive or how limiting the number of costs should be. Therefore, such differences as determining more and more process costs does not effectively serve to patentably distinguish the claimed invention over the prior art.

Furthermore, Ngi discloses that *there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used ([0122])*. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include management processes costs as well in order to provide comprehensive business solutions.

**Regarding claim 24:**

Ngi does not disclose engineer and determine costs for at least one of: a create a new service process; a customer association process; a process for aligning and synchronizing with billing, maintenance, and performance; and a resource discovery and database quires process.

However, Bowman-Amuah teaches *the Network Data Management process, including input and output triggers. This process is responsible for the collection of usage data and events primarily for the purpose of network performance and traffic analysis and optimization. This data may also be an input to Billing (Rating and Discounting) processes at the Service Management Layer ...performance degradation notification to Network Maintenance* (column 72, lines 8-57).

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

EURESCOM teaches determining costs for *Network & systems databases (Inventory & data management)* (D2, Volume 2: pages 30-36, Table 7). Note that considering more and more costs becomes a matter of choice as to how comprehensive or how limiting the number of costs should be. Therefore, such differences as determining more and more process costs does not effectively serve to patentably distinguish the claimed invention over the prior art.

Furthermore, Ngi discloses that *there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used ([0122])*. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include management processes costs as well in order to provide comprehensive business solutions.

**Regarding claim 25:**

Ngi does not disclose engineer and determine costs for at least one of: a trouble ticketing process; an isolate problem process;

and an analysis and resolution for service logic agreement (SLA) process.

However, Bowman-Amuah teaches *[n]otification actions include... trouble tickets. ...trouble ticket ID is returned to the Omnibus and can be viewed as reference... Remedy Action Request System, a trouble ticketing system* (column 53, line 42 - column 55, line 64).

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

EURESCOM teaches determining costs for *Service fault management* (D2, Volume 2: pages 30-36, Table 7). Note that considering more and more costs becomes a matter of choice as to how comprehensive or how limiting the number of costs should be. Therefore, such differences as determining more and more process

costs does not effectively serve to patentably distinguish the claimed invention over the prior art.

Furthermore, Ngi discloses that *there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used ([0122])*. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include management processes costs as well in order to provide comprehensive business solutions.

**Regarding claim 26:**

Ngi does not disclose engineer and determine costs for at least one of: a collect performance data process; a generate performance reports process; and a validate service logic agreement (SLA) process.

However, Bowman-Amuah teaches *[t]he process provides sufficient and relevant information to verify compliance/non-compliance to Service Level Agreements* (column 26, lines 54-57).

Ngi discloses engineering network architectures ([0055]). Since management processes are integral to the business of networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of Bowman-Amuah to include engineering management processes as well in order to provide comprehensive business solutions.

EURESCOM teaches determining costs for *Network performance management* (D2, Volume 2: pages 30-36, Table 7). Note that considering more and more costs becomes a matter of choice as to how comprehensive or how limiting the number of costs should be. Therefore, such differences as determining more and more process costs does not effectively serve to patentably distinguish the claimed invention over the prior art.

Furthermore, Ngi discloses that *there is an attempt to encapsulate as many degrees of operational costing as possible. The reason for this is to obtain the most comprehensive information to best represent the network models that are used* ([0122]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ngi with the teachings of EURESCOM to include



management processes costs as well in order to provide comprehensive business solutions.

### ***Response to Arguments***

Applicant argues that the prior art does not teach limitations (d), (e), and (f) of claim 1. Examiner respectfully disagrees.

First, Examiner would like to point out that applicant emphasizes that the present invention is directed to two levels of networks, including a network architecture and a management network. However, this two level network is not claimed. As stated in claim 1, the management processes are not a separate network, as applicant implies, but part of the network. This is made clear in that the claims state, "...network management processes..." NOT management network; "network management" is describing "processes," not a network.

As to limitation (d), that of engineering the various processes, applicant spends a great deal of time saying how important this step is and describing various related aspects from the specification. It is important to remember, though, that the Examiner cannot import limitations from the specification into

the claims, but must use the broadest reasonable interpretation of the claims. In determining applicant's meaning, Examiner turned to the Free Online Dictionary to consider the meaning of "engineering". "Engineering" is defined as "the application of scientific and mathematical principles to practical ends such as the design, manufacture, and operation of efficient and economical structures, machines, processes, and systems." So, to simplify, and considering how the term is used by applicant, engineering as used in the claims means the design of the processes. As is shown above, Bowman-Amuah teaches the use of the various processes. For the processes to exist and be used, they inherently must be designed, or engineered.

As to limitation (e), EURESCOM teaches the specific management processes costs for the network management processes, and the service and customer management processes (D2, Volume 1: page 8, number 4, *The operation, administration and maintenance costing is based on the identification and the classification of the operation, administration and maintenance processes and their respective drivers. A cost model is described for each or a group of processes depending on the level of accuracy required by the analysis of the project. Sometimes operation, administration and maintenance processes are simply referred to*

*as operational processes with the related operational expenditure in the loss and profit account. At the modeling stage, the modeling might also be based on the nature of cost, i.e. human resources, utilities, material, etc.; D2, Volume 1: page 11, Table 1, Identification of sources of running costs: Customer care management, Service & Service Management, Network and System Management*. (Underline added.)

With regard to limitation (f), EURESCOM teaches validating the data and options and the costs for the plurality of network architectures, the network management processes, and the service and customer management processes (D1, Volume 2: page 10, *...debug, revise, and refine the methodologies...* where debugging the methodologies is interpreted as validating the data and options and costs). To validate data is to check it. By debugging the methodologies, or checking for and removing errors, EURESCOM is teaching validating. As to the calibrating aspect, as is explained in greater detail above, Ngi discloses producing an enhanced network configuration through iterative revision. Ngi discloses bandwidth modeling with standardizing demand data to determine capacity and service. Ngi discloses costs are simulated and network changes are made accordingly. Ngi discloses 'what-if' analysis on business parameters and

network metrics. What-if analysis implies that if results are unsatisfactory, adjustments are made. Ngi clearly discloses adjusting or standardizing or determining the graduation of, that is, "calibrating" data and options and the costs.

Applicant also argues that there is no motivation to combine the various pieces of art, as Bowman-Amuah and EURESCOM disclose information which is well known to one of ordinary skill in the art. Examiner respectfully disagrees. Simply because Bowman-Amuah and EURESCOM disclose information well known to one of ordinary skill in the art does not mean that there is no motivation to combine the prior art. Indeed, it is presumed that all prior art is known to one of ordinary skill in the art.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARRIE A. STRODER whose telephone number is (571)270-7119. The examiner can normally be reached on Monday - Thursday 8:00 a.m. - 5:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jan Mooneyham can be

reached on (571)272-6805. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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